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10/795,796	03/08/2004	Jianhua Sun	851663.465	7697

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EXAMINER
KHAN, ASHER R

ART UNIT	PAPER NUMBER
4134	

MAIL DATE	DELIVERY MODE
04/14/2008	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) ☒ Responsive to communication(s) filed on *08 March 2004*.
2a) ☐ This action is **FINAL**.   2b) ☒ This action is non-final.
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) ☒ Claim(s) *1-18* is/are pending in the application.
    4a) Of the above claim(s) _____ is/are withdrawn from consideration.
5) ☐ Claim(s) _____ is/are allowed.
6) ☒ Claim(s) *1-18* is/are rejected.
7) ☐ Claim(s) _____ is/are objected to.
8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9) ☐ The specification is objected to by the Examiner.
10) ☒ The drawing(s) filed on *08 March 2004* is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
    a) ☒ All   b) ☐ Some *   c) ☐ None of:
      1. ☒ Certified copies of the priority documents have been received.
      2. ☐ Certified copies of the priority documents have been received in Application No. _____.
      3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
    Paper No(s)/Mail Date _____.

4) ☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Specification

1.   In this case Applicant recites a claim in the abstract. However,

Applicant is reminded of the proper content of an abstract of the disclosure.

A patent abstract is a concise statement of the technical disclosure of the patent
and should include that which is new in the art to which the invention pertains. If the
patent is of a basic nature, the entire technical disclosure may be new in the art, and the
abstract should be directed to the entire disclosure. If the patent is in the nature of an
improvement in an old apparatus, process, product, or composition, the abstract should
include the technical disclosure of the improvement. In certain patents, particularly
those for compounds and compositions, wherein the process for making and/or the use
thereof are not obvious, the abstract should set forth a process for making and/or use
thereof. If the new technical disclosure involves modifications or alternatives, the
abstract should mention by way of example the preferred modification or alternative.

The abstract should not refer to purported merits or speculative applications of
the invention and should not compare the invention with the prior art.

Where applicable, the abstract should include the following:
(1) if a machine or apparatus, its organization and operation;
(2) if an article, its method of making;
(3) if a chemical compound, its identity and use;
(4) if a mixture, its ingredients;
(5) if a process, the steps.

Extensive mechanical and design details of apparatus should not be given.

Claim Rejections - 35 USC § 101

2.   35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of
matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the
conditions and requirements of this title.

The USPTO "Interim Guidelines for Examination of Patent Applications for Patent
Subject Matter Eligibility" (Official Gazette notice of 22 November 2005), Annex IV,
reads as follows:

Descriptive material can be characterized as either "functional descriptive material" or "nonfunctional descriptive material." In this context, "functional descriptive material" consists of data structures and computer programs which impart functionality when employed as a computer component. (The definition of "data structure" is "a physical or logical relationship among data elements, designed to support specific data manipulation functions." The New IEEE Standard Dictionary of Electrical and Electronics Terms 308 (5th ed. 1993).) "Nonfunctional descriptive material" includes but is not limited to music, literary works and a compilation or mere arrangement of data.

When functional descriptive material is recorded on some computer-readable medium it becomes structurally and functionally interrelated to the medium and will be statutory in most cases since use of technology permits the function of the descriptive material to be realized. Compare In re Lowry, 32 F.3d 1579, 1583-84, 32 USPQ2d 1031, 1035 (Fed. Cir. 1994) (claim to data structure stored on a computer readable medium that increases computer efficiency held statutory) and Warmerdam, 33 F.3d at 1360-61, 31 USPQ2d at 1759 (claim to computer having a specific data structure stored in memory held statutory product-by-process claim) with Warmerdam, 33 F.3d at 1361, 31 USPQ2d at 1760 (claim to a data structure per se held nonstatutory).

In contrast, a claimed computer-readable medium encoded with a computer program is a computer element which defines structural and functional interrelationships between the computer program and the rest of the computer which permit the computer program's functionality to be realized, and is thus statutory. See Lowry, 32 F.3d at 1583-84, 32 USPQ2d at 1035.

3.   Claims 10 and 11 are rejected under 35 U.S.C. 101 because the claimed

invention is directed to non-statutory subject matter as follows. Claim 10 and 11define a

program embodying functional descriptive material. However, the claim does not define

a computer-readable medium or memory and is thus non-statutory for that reason (i.e.,

"When functional descriptive material is recorded on some computer-readable medium

it becomes structurally and functionally interrelated to the medium and will be statutory

in most cases since use of technology permits the function of the descriptive material to

be realized" – Guidelines Annex IV). That is, the scope of the presently a program can

range from paper on which the program is written, to a program simply contemplated

and memorized by a person.

        The phrase "means" as cited in claim 1 could be a computer program per se (see

paragraph 81 of specification). The computer program is only description or expression,

and is nonstatutory. However, when a computer program is recited in conjunction with

physical structure, such as a computer memory and is thus statutory(see pages 51-53

of the 101 interim guidelines).

Because the full scope of the claim as properly read in light of the disclosure

encompasses non-statutory subject matter, the claim as a whole is non-statutory.

Claim Rejections - 35 USC § 102

Claim Rejections - 35 USC § 103

4.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set
> forth in section 102 of this title, if the differences between the subject matter sought to be patented and
> the prior art are such that the subject matter as a whole would have been obvious at the time the
> invention was made to a person having ordinary skill in the art to which said subject matter pertains.
> Patentability shall not be negatived by the manner in which the invention was made.

5.   **Claim 1-2, 7-13 and 18 are rejected under 35 U.S.C. 103(a) as being**

unpatentable over U.S. Patent 6,226,443 B1 to Morioka et al "Morioka" in view of

Applicant's admitted prior art.

As to **claims 1, 10 and 12**, Morioka discloses a method of decoding audio data,

encoded in multiple DIF blocks in a Digital Video (DV) frame of a DV data stream, and

outputting said audio data as a PCM frame, the method comprising:

(i) fetching a single Digital Interface Frame (DIF) block from the DV data stream, the DIF

block having a plurality of bytes including a first byte and a last byte. (Fig. 19)(Col. 18,

lines 45-67; col. 19, lines 1-35);

(ii) de-shuffling the first byte in the single DIF block to convert the first byte in the PCM

frame (Fig. 19)(Col. 18, lines 45-67; col. 19, lines 1-35);

(iii) repeating step (ii) on subsequent bytes of the single DIF block until the last byte in

the single DIF block is processed(Fig. 19)(Col. 18, lines 45-67; col. 19, lines 1-35);

(iv) writing the de-shuffled data into the PCM frame for output if the single DIF block is

the last in the DV frame (Fig. 19)(Col. 18, lines 45-67; col. 19, lines 1-35);

(v) repeat steps (i) to (iv) for subsequent DIF blocks in the DV frame(Fig. 19)(Col. 18,

lines 45-67; col. 19, lines 1-35);

Morioka does not expressly disclose that index (n) is used in deshuffling.

Applicant's Admitted Prior Art discloses that index (n) is used in shuffling (Page

3, lines 1-21; AAPA mentions reverse mapping of function f(n) that is deshuffling).

At the time of invention, it would have been obvious to a person of ordinary skill

in the art to combine Morioka and Applicant's Admitted Prior Art. Motivation would have

been that all claimed elements were known in the prior art and one skilled in the art

could have combined the elements as claimed by known methods with no change in

their respective functions, and the combination would have yielded predictable results to

one of ordinary skill in the art at the time of invention.

Therefore, it would have been obvious to combine Morioka and Applicant's

admitted prior art to as claimed in claims 1, 10 and 12.

As to **claims 2 and 13**, Morioka discloses wherein data sample in the output

PCM frame is dependent on parameters of the DV data (Fig. 19)(Col. 18, lines 45-67;

col. 19, lines 1-35). Applicant's admitted prior art discloses index (n) (Applicant's

Admitted Prior art, page 3, lines 1-21).

As to **claim 7**, wherein the DV data may be encoded to one of a plurality of different video systems, such as 525/60 (2-channel or 4-channel) or 625/50 (2-channel or 4-channel) (Admitted prior art coding, 0013, 0017, 0030).

As to **claim 8**, Applicant's admitted prior art teaches claim 8 in paragraph (0017).

As to **claims 9 and 18**, Applicant's admitted prior art teaches claim function "f(n)" in paragraph 20 and in figure 4 and it would be obvious to derive inverse function from "f(n)" and using equations of paragraphs 0012. It is common to obtain inverse function from a function in mathematical derivations (0032-0033).

As to **claim 11**, Morioka discloses wherein the apparatus is a custom Digital Signal Processor (DSP) (Figure 11, 117).

6.   **Claims 3 and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent 6,226,443 B1 to Morioka et al "Morioka" in view of Applicant's Admitted Prior Art and in further view of KR Application No. 10-1996-0072736 to Jeong-Gyu Kim "Jeong"**

As to **claims 3 and 14**, Morioka as modified does not expressly disclose the parameters having track number; sync block number and byte position within the DIF block (b).

Jeong discloses wherein the parameters include:

track number (t) (14);

sync block number (s) (14); and

byte position within the DIF block (b) (Morioka, DVC, col. 7, lines 1-20) (14).

At the time of invention, it would have been obvious to a person of ordinary skill in the art to modify Morioka as modified with the teaching of Jeong. Motivation would have been to synchronize track number and sync block number to improve operation speed.

Therefore, it would have been obvious to combine Morioka, Applicant's Admitted Prior Art and Jeong to obtain the invention as described in claims 3 and 14.

7.   **Claim 4-6 and 15-17 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent 6,226,443 B1 to Morioka et al "Morioka" in view of Applicant's Admitted Prior Art and KR Application No. 10-1996-0072736 to Jeong-Gyu Kim "Jeong" and in further view of U.S. Patent 6,876,814 B1 to Le Dantec.**

As to **claims 4 and 15**, Jeong further discloses wherein for t (41) and s (40) are set to zero (40-41).

Morioka as modified does not expressly disclose a first DIF block of the DV frame.

Le Dantec discloses a first DIF block of the DV frame set to zero (Fig. 3) and a DIF block counter is set to zero (Col. 11, lines 45-50)

At the time of invention it, it would have been obvious to a person of ordinary skill in the art to modify Morioka as modified with the teaching of Le Dantec. Motivation would have been to reset values to zero after obtaining certain amount of data required for processing at a time.

Therefore, it would have been obvious to combine Morioka as modified and Le Dantec to obtain the invention as described in claims 4 and 15.

As to **claims 5 and 16**, Jeong further discloses wherein s is incremented by 1 each time a new DIF block is received, and is reset to zero every nine DIF blocks (Constitution). It would have been obvious to one skilled in the art as a matter of design choice that the counter is reset to "0" after word numbers are counted by nine.

As to **claims 6 and 17**, Jeong further discloses wherein t is incremented by 1 every nine DIF blocks (Constitution and 38). It would have been obvious to one skilled in the art as a matter of design choice to increment the track number (t) by "1" every 9 sync block numbers instead of 10 sync block numbers.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to ASHER KHAN whose telephone number is (571)270-5203. The examiner can normally be reached on Monday-Friday 9:30 am - 5 pm EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Lun Yi can be reached on (571)272-7671. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the

Patent Application Information Retrieval (PAIR) system. Status information for

published applications may be obtained from either Private PAIR or Public PAIR.

Status information for unpublished applications is available through Private PAIR only.

For more information about the PAIR system, see http://pair-direct.uspto.gov. Should

you have questions on access to the Private PAIR system, contact the Electronic

Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a

USPTO Customer Service Representative or access to the automated information

system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/A. K./
Examiner, Art Unit 4134

/LUN-YI LAO/
Supervisory Patent Examiner, Art Unit 4134